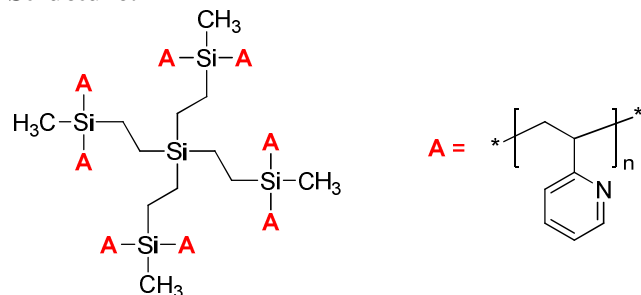


Sample name: Eight arm Poly(2-vinyl pyridine)

Sample #: P11297-8-2VP

Structure:



Composition:

Mn x 10 ³ (total):	53.0
Mn x 10 ³ (of each arm):	7.0
PDI:	1.09

Synthesis Procedure:

The eight arm-polymer was prepared by anionic living polymerization of 2VP in THF, and then the star polymer was obtained by coupling reaction with octachlorosilane derivative.

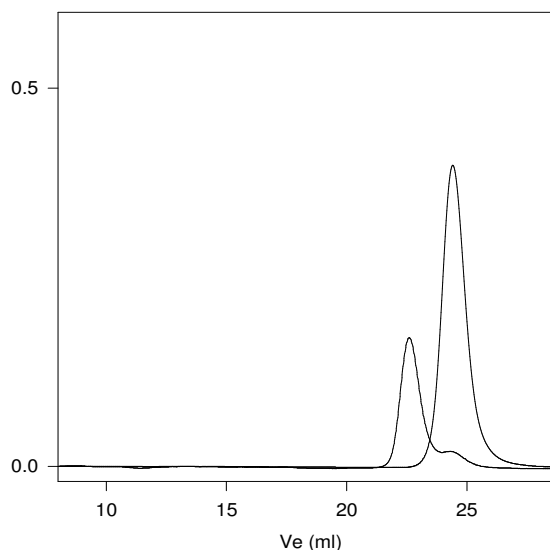
Synthesis of the linking agent. The linking agent was synthesized by reacting under nitrogen tetravinylsilane with an excess of dichloromethylsilane. The tetravinylsilane was added dropwise to the catalyst-chlorosilane solution which was maintained at 40°C. The catalyst consisted of 1g of H₂PtCl₆•6H₂O in 9 ml of dimethoxyethane and 1 ml of ethanol. At the end of the reaction, the excess chlorosilane was removed at 60°C under reduced pressure. Distillation under reduced nitrogen pressure was then carried out to collect the linking agent, octafunctional chlorosilane. It was dissolved in purified cyclohexane, divided into several break-seal ampoules, and sealed under vacuum.

Characterization:

Molecular weight of the product was obtained by size exclusion chromatography (SEC): Varian liquid chromatograph equipped with UV and refractive detector. SEC columns from Supelco were used with THF as the eluent. The columns were calibrated with monodisperse poly 2 vinyl pyridine. The molecular weights and the polydispersity indice of the side-arm were calculated. The absolute molecular weight of the star-like polymer was determined by light scattering detector.

SEC elugram of the arm:

P11297-2VP.8



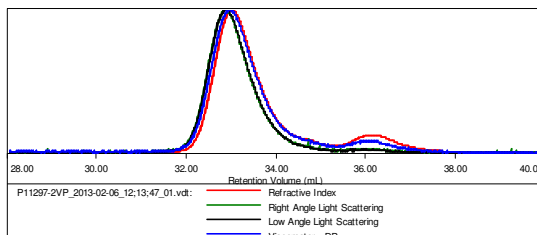
Size exclusion chromatography:

— Poly 2VP before linkage, M_n=6,800, M_w=7,400, PI=1.08
— 8-arm poly 2VP, M_n : of the final polymer: 53,000 M_w: 58,000

SEC elugram of the star polymer:

Sample ID: P11297-2VP

Concentration (mg/mL)	6.7163
Sample dn/dc (mL/g)	0.1670
Method File	PS80K-Feb-2013-0001.vcm
Column Set	3x PL 1113-6300
System	System 1



Sample	Mn (Da)	Mw (Da)	Mp (Da)	Mw/Mn	IV (dL/g)
P11297-2VP_2013-02-06_12:13:47_01.	53,085	58,065	59,365	1.094	0.1566

